DATA SHEET

NEC

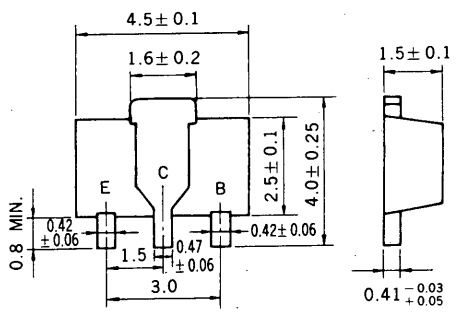
SILICON TRANSISTOR
2SC3554

NPN SILICON EPITAXIAL TRANSISTOR
POWER MINI MOLD

DESCRIPTION

2SC3554 is designed for high Voltage Switching application, especially in Hybrid Integrated Circuits.

PACAKAGE DIMENSIONS
in millimeters



1. Emitter
2. Collector
3. Base

FEATURES

- World Standard Miniature Package
- High Voltage : V_{CEO} = 300 V

ABSOLUTE MAXIMUM RATINGS

Maximum Voltages and Current (T_a = 25 °C)			
Collector to Base Voltage	V_{CBO}	300	V
Collector to Emitter Voltage	V_{CEO}	300	V
Emitter to Base Voltage	V_{EBO}	5	V
Collector Current (DC)	I_C	200	mA
Maximum Power Dissipation			
Total Power Dissipation at 25°C Ambient Temperature*	P_T	2.0	W
Maximum Temperatures			
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	−55 to +150	°C

*When mounted on ceramic substrate of 16 cm² x 0.7 mm

ELECTRICAL CHARACTERISTICS (T_a = 25 °C)

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector Cutoff Current	I_{CBO}			100	nA	V_{CB} = 200 V, I_E = 0
Emitter Cutoff Current	I_{EBO}			100	nA	V_{EB} = 5.0 V, I_C = 0
DC Current Gain	h_{FE} **	60	150	250		V_{CE} = 10 V, I_C = 10 mA
Collector Saturation Voltage	$V_{CE(sat)}$ **		0.15	1.5	V	I_C = 50 mA, I_B = 5.0 mA
Gain Bandwidth Product	f_T		50		MHz	V_{CE} = 30 V, I_E = −10 mA
Output Capacitance	C_{ob}		2.8	3.5	pF	V_{CB} = 30 V, I_E = 0, f = 1.0 MHz

**Pulsed: PW ≦ 350 μs, Duty Cycle ≦ 2 %

h_{FE} Classification

MARKING	SM	SL	SK
h_{FE}	60 to 120	100 to 200	160 to 250

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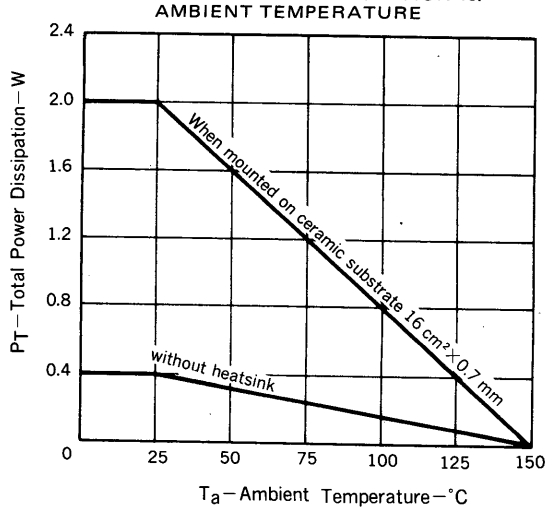
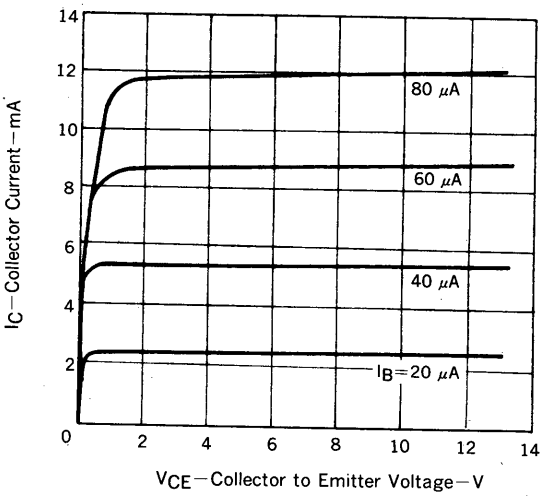
TYPICAL CHARACTERISTICS (T_a = 25 °C)

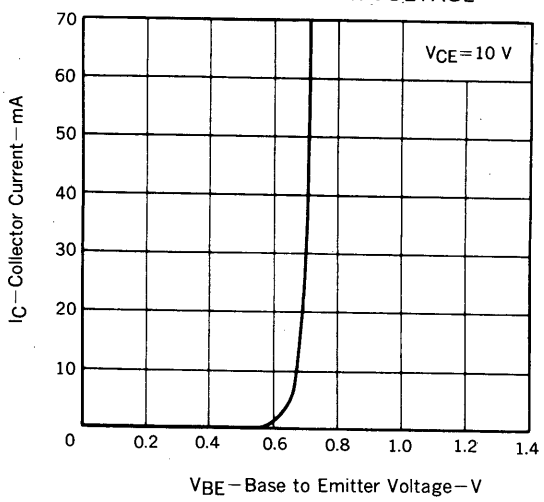
TOTAL POWER DISSIPATION vs. AMBIENT TEMPERATURE



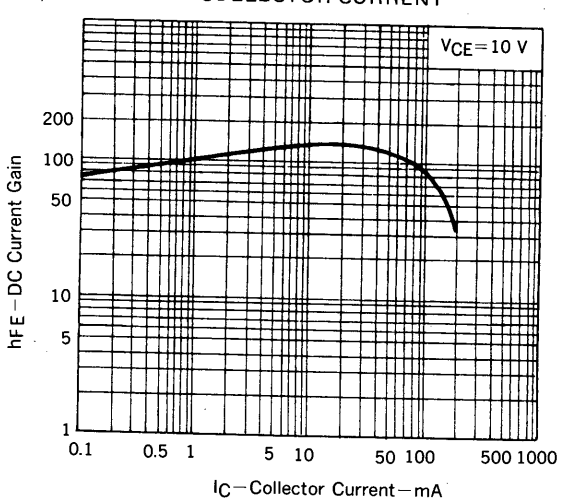
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



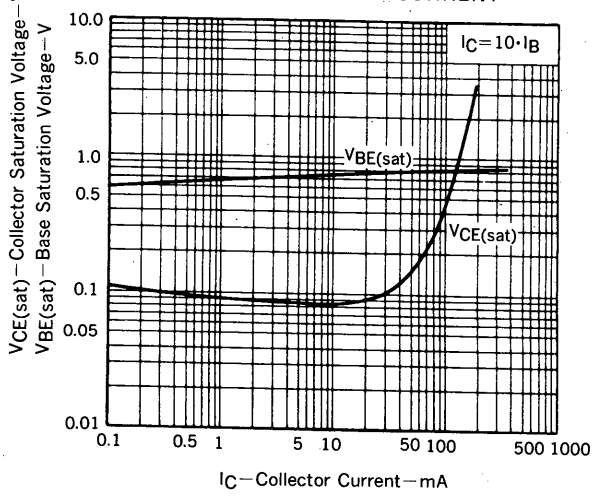
COLLECTOR CURRENT vs. BASE TO EMITTER VOLTAGE



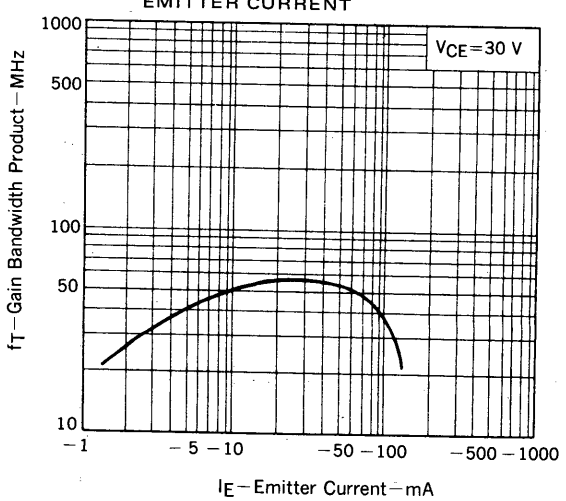
DC CURRENT GAIN vs. COLLECTOR CURRENT



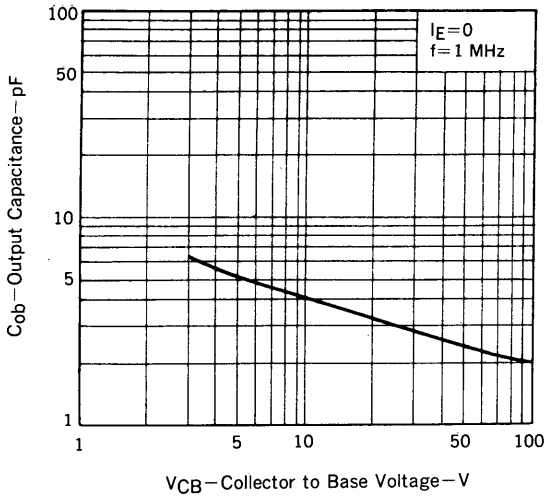
BASE AND COLLECTOR SATURATION VOLTAGE vs. COLLECTOR CURRENT



GAIN BANDWIDTH PRODUCT vs. EMITTER CURRENT



OUTPUT CAPACITANCE vs.
COLLECTOR TO BASE VOLTAGE



REFERENCE

Document Name	Document No.
NEC semiconductor device reliability/quality control system.	TEI-1202
Quality grade on NEC semiconductor devices.	IEI-1209
Semiconductor device mounting technology manual.	IEI-1207
Semiconductor device package manual.	IEI-1213
Guide to quality assurance for semiconductor devices.	MEI-1202
Semiconductor selection guide.	MF-1134

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